

## CLAIMS

1. A method for assigning a mobile subscriber roaming number, wherein in a Visitor Location Register, the mobile subscriber roaming number is managed by a plurality of Visitor Location Register modules, characterized in that: said mobile subscriber roaming number comprises a Visitor Location Register module number, and said Visitor Location Register module number is utilized to directly determine the correspondence relationship between said assigned mobile subscriber roaming number and the Visitor Location Register module in said Visitor Location Register that manages said mobile subscriber roaming number.

2. The method according to claim 1, characterized in that, said method comprising the following steps:

    said Visitor Location Register receives from a Home Location Register a request to assign a roaming number for a mobile subscriber;

    said Visitor Location Register forwards the request to one of the Visitor Location Register modules;

    said Visitor Location Register module records the information corresponding to said mobile subscriber and obtains its corresponding VLR sub-number;

    said Visitor Location Register module generates a mobile subscriber roaming number, said mobile subscriber roaming number comprises a country code, the number of a Mobile Switching Center where said mobile subscriber is in, the module number of said Visitor Location Register module, said VLR sub-number;

    said Visitor Location Register module returns said mobile subscriber roaming number to said Home Location Register.

3. The method according to claim 2, characterized in that, said recording step further comprising:

    said Visitor Location Register module records the information of said mobile

subscriber in an idle record in a mobile subscriber roaming number information table, and obtains the VLR sub-number corresponding to said record.

4. The method according to claim 1, characterized in that, said Visitor Location Register is a multi-module-clustered distributed real time database.

5. The method according to claim 1, characterized in that, the length of the module number of said Visitor Location Register module may be one bit or multiple bits.

6. The method according to claim 1, characterized in that, the length of said mobile subscriber roaming number is not longer than 15 bits.

7. A method for searching a mobile subscriber roaming number, wherein in a Visitor Location Register, the mobile subscriber roaming number is managed by a plurality of Visitor Location Register modules, characterized in that, said mobile subscriber roaming number comprises a Visitor Location Register module number, and said Visitor Location Register module number is utilized to directly find the Visitor Location Register module in said Visitor Location Register that manages said mobile subscriber roaming number, thereby obtains the information of said mobile subscriber.

8. The method according to claim 7, characterized in that, said method comprising the following steps:

based on said mobile subscriber roaming number, a Visitor Mobile Switching Center initiates a query to the Visitor Location Register module corresponding to said mobile subscriber roaming number;

said Visitor Location Register module searches the information of corresponding mobile subscriber based on said mobile subscriber roaming number, and returns it to said Visitor Mobile Switching Center.

9. The method according to claim 8, characterized in that, said step of initiating a query further comprising:

said Visitor Mobile Switching Center decomposes said mobile subscriber roaming number into a country code, a Mobile Switching Center number and a Visitor Location Register module number based on the assignment format of said mobile subscriber roaming number;

    said Visitor Mobile Switching Center sends the query request to the Visitor Location Register module corresponded to said Visitor Location Register module number.

10. The method according to claim 8, characterized in that, said searching step further comprising:

    said Visitor Location Register module obtains the VLR sub-number in said mobile subscriber roaming number, and obtains the information of said mobile subscriber in the record of the mobile subscriber roaming number information table corresponded to said VLR sub-number, and returns it to said Visitor Mobile Switching Center;

    said Visitor Location Register module releases said VLR sub-number.